

Notice of Allowability

Application No.

09/934,803

Examiner

Burton S. Mullins

Applicant(s)

HEIBERGER ET AL.

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 27 November 2002.
2. ☒ The allowed claim(s) is/are 1-19.
3. ☒ The drawings filed on 22 August 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the top margin (not the back) of each sheet. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. <u>5</u> | 6 <input type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

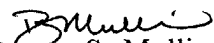
REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: Smith does not teach superconductive field coils in his homopolar transformer. Neither does Smith recognize or address the problem of brushes maintaining constant contact pressure on the armature turns in the presence of high magnetic fields. Thus, Smith does not teach or suggest the features of claim 1 of "means for maintaining substantially constant contact pressure of the current collectors with the armature conductor turns in the presence of high magnetic fields produced by superconducting field coils." As described on p.9, lines 6-27 of the specification, outer flux return 102 and inner flux return 140 have a geometry such that when superconductive field coils 110 and 112 are energized with opposing polarities, the lines of flux are directed by the flux returns substantially toward the region disposed by armature assembly 106, with the field lines substantially parallel to the portions of current collectors 132 (directed radially outward; see Figs.4-5). Thus, any magnetic forces generated in the current collectors due to non-parallel current flow is minimized and deflections of the current collectors is reduced.

There appears to be no teaching or suggestion in Smith of means in the outer flux return geometry which would direct flux parallel to the direction that the current collectors are positioned. Similarly, in Stillwagon, there is no recognition of the problem of deflections of the collector brushes 40; neither is there teaching or suggestion of means for preventing this. From Stillwagon, Figs.2&4, it does not appear that the inner flux sleeve 18 has a geometry that directs flux parallel to the brushes 40 to thus minimize any e-m forces due to non-parallel flux flow.

Similarly, the remaining prior art references do not teach or suggest the function of maintaining constant current collector pressure on the armature turns in the presence of high fields produced by superconducting coils, or inner and outer flux return pieces directing magnetic flux field lines substantially parallel to the direction of current flow in the region where current collectors contact the armature conductor turns.

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."
3. The current drawings are informal. Applicant is reminded to submit FORMAL DRAWINGS to the draftsman.
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.


Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
February 5, 2003